UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,178	10/09/2003	Hyuck-Jae Lee	1293.1911	7887

21171 7590 09/17/2010
STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
KASSA, HILINA S	

ART UNIT	PAPER NUMBER
2625	

MAIL DATE	DELIVERY MODE
09/17/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/681,178	**Applicant(s)** LEE, HYUCK-JAE
	Examiner HILINA S. KASSA	**Art Unit** 2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-7,9,10,12-15,17-23,25-29 and 31-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 4-7, 9, 10, 12-15, 17-23, 25-29 and 31-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/13/2010 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 2, 4-7, 9, 10, 12-15, 17-23, 25-29 and 31-41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 4-7, 9, 10, 12-15, 17-23, 25-29 and 31-41 are rejected under 35 U.S.C. 103(a) as being obvious over Ohta (US Patent Number 6,980,319 B2)

and Torikai (Japanese Publication Number 10-091375) and Mazzagatte et al. (US Patent Number 7,454,796 B2) further in view of Hayashi (US Patent Number 7,089,321 B2).

(1) regarding claim 1:

As shown in figures 1-6 Ohta discloses a printing client management method of a wireless Local Area Network printer (**12A-12C, 13 figure 1; column 4, lines 41-45; note that remote printing system which is connection via network is disclosed**) that functions as a network server and manages at least one printing client in a Local Area Network (**13, figure 1; column 4, lines 62-66; note that the print server manages the print requests in a print queue with a specified printing stations**), comprising:

managing printing operations of the at least one printing client according to the list (**column 4, line 66-column 5, line 3; note that the print server manages the operation of the printing stations**); and

wherein the at least one printing client is a personal computer, a personal digital assistant, or a cellular phone, that includes a wireless Local Area Network functionality (**column 4, lines 49-51; note that the client includes a cellular phone, a note-size computer and a PDA**).

Ohta discloses all of the subject matter as described as above except for specifically teaching forming a list of the at least one printing client by using a Media Access Control address of the Media Access Control frame as an index, the list reflecting a state of the at least one printing client in relation to the wireless LAN printer.

However, Torikai discloses extracting information from a Media Access Control frame of the at least one printing client that is associated with a Basic Service Set (**abstract, lines 4-8; note that the network printer is equipped with an order control means which extracts a transmission destination MAC address from a print request packet**), which includes the wireless LAN printer (**paragraph [0021], line 1; network printer is considered as the LAN printer as shown in figure 1**); forming a list of the at least one printing client by using a Media Access Control address of the Media Access Control frame as an index (**abstract, lines 8-15; note that table 11 is formed based on the printer which is equipped with a request-to-send part which sends a request of the request-to-send packed back to the MAC address at the head of the queue table 11**), the list reflecting a state of the at least one printing client in relation to the wireless LAN printer (**paragraph [0021], lines 4-6; note that the priority table reflects the relationship of the printer and the host**).

Ohta and Torikai are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to extract information from a Media Access Control frame of the at least one printing client that is associated with a Basic Service Set, which includes the wireless LAN printer; forming a list of the at least one printing client by using a Media Access Control address of the Media Access Control frame as an index, the list reflecting a state of the at least one printing client in relation to the wireless LAN printer. The suggestion/motivation for doing so would have been in order acquire a better communication between multiple devices; also, to minimize the need for buffer for print data (lines 1-3; abstract). Therefore, it would have been obvious to combine Ohta with Torikai to obtain the invention as specified in claim 1.

Ohta and Torikai disclosed most of the subject matter as described as above except for specifically teaching the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer; by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer.

However, Mazzagatte et al. the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer (**column 11, lines 40-45; note that an authenticated print job contains unique identification information of the intended recipient and is held off from being printed until the recipient has been authenticated at the printer. Also, note that as stated on column 11, lines 58-62; the printer and the computer are connected via wireless network**); by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer (**column 12, lines 9-17; note that the authenticated print job are permitted to be printed**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer; by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer. The suggestion/motivation for doing so would have been in order to remotely obtaining exclusive control of a device by remotely establishing communication with the device over a network, requesting to obtain remote exclusive control of the device's capabilities, and determining whether remote exclusive control of the device's capabilities can be obtained based on whether or not another user already has exclusive control of the device's capabilities (lines 1-7; abstract). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 1.

Ohta, Torikai and Mazzagatte et al. disclosed most of the subject matter as described as above except for specifically teaching wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes.

However, Hayashi disclosed wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes (**column 10, lines 27-32; note that the response signal is laid out in structure as shown**

in FIG. 5 and is transmitted wirelessly to the wireless client device 2 over the frequency channel on which the beacon signal is being output).

Ohta, Torikai, Mazzagatte et al. and Hayashi are combinable because they are from the same field of endeavor i.e. wireless network devices. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes. The suggestion/motivation for doing so would have been in order to remotely obtaining exclusive control of a device by remotely establishing communication with the device over a network (column 1, lines 51-58). Therefore, it would have been obvious to combine Ohta and Torikai, Mazzagatte et al. with Hayashi to obtain the invention as specified in claim 1.

(2) regarding claim 2:

Ohta further discloses, the method according to claim 1, wherein the wireless Local Area Network printer and the at least one printing client operate within the IEEE 802.11b standard (**11, 12A-12C, 15, figure 1; column 4, lines 45-53; note that the printers and the print client i.e. considered as the PDA is connected wirelessly**).

(3) regarding claim 4:

Ohta and Torikai disclose all of the subject matter as described as above except for specifically teaching wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication.

However, Mazzagatte et al. disclose wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication (**column 16, lines 40-45; note that the in order to have print jobs the client gets authenticated via a smart card reader. also in column 11, lines 60-62; note that the printer and the client are connected via wireless connection**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 4.

(4) regarding claim 5:

Ohta and Torikai disclose all of the subject mater as described as above except for specifically teaching wherein the list of the at least one printing client includes fields specifying whether each printing client is allowed to associate with the wireless Local Area Network printer.

However, Mazzagatte et al. teach wherein the list of the at least one printing client includes fields specifying whether each printing client is allowed to associate with the wireless Local Area Network printer (**column 11, lines 52-55; note that the printing clients i.e. data sending nodes and computers are connected with the associate printer and print server**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specify whether each printing client is allowed to associate with the wireless Local Area Network printer. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 5.

(5) regarding claim 6:

Ohta further the method according to claim 1, wherein the list of the at least one printing client includes fields assigning a printing priority to the at least one printing client (**column 6, lines 25-27; note that the queue allocates resource for each transfer according to the priority**).

(7) regarding claim 7:

Ohta further discloses, the method according to claim 1, wherein the list of the at least one printing client includes fields denoting whether specific functions of the wireless Local Area Network printer are usable by the at least one printing client (**column 4, lines 55-59; note that the printers and the print client i.e. PDA are connected via wireless network**).

(8) regarding claim 9:

Ohta further discloses a wireless Local Area Network printer (**12A-12C, 13 figure 1; column 4, lines 41-45; note that remote printing system which is connection via network is disclosed**) that functions as a network server and manages at least one printing client in a Local Area Network (**13, figure 1; column 4, lines 62-66; note that the print server manages the print requests in a print queue with a specified printing stations**), comprising:

a management unit to manage printing operations of the at least one printing client according to the list (**column 4, line 66-column 5, line 3; note that the print server manages the operation of the printing stations**);

wherein the at least one printing client is a personal computer, a personal digital assistant, or a cellular phone, that includes a wireless Local Area Network functionality (**column 4, lines 49-51; note that the client includes a cellular phone, a note-size computer and a PDA**).

Ohta discloses all of the subject matter as described as above except for specifically teaching an extraction unit to extract information from a Media Access Control frame of the at least one printing client that is associated with a Basic Service Set, which includes the wireless LAN printer; a list forming unit to form a list of the at least one printing client by using a Media Access Control address of the Media Access Control frame as an index, the list reflecting a state of the at least one printing client in relation to the wireless LAN printer.

However, Torikai discloses an extraction unit to extract information from a Media Access Control frame of the at least one printing client that is associated with a Basic Service Set (**abstract, lines 4-8; note that the network printer is equipped with an order control means which extracts a transmission destination MAC address from a print request packet**), which includes the wireless LAN printer (**paragraph [0021], line 1; network printer is considered as the LAN printer as shown in figure 1**); a list forming unit to form the at least one printing client by using a Media Access Control address of the Media Access Control frame as an index (**abstract, lines 8-15; note that table 11 is formed based on the printer which is equipped with a request-to-send part which sends a request of the request-to-send packed back to the MAC address at the head of the queue table 11**) the list reflecting a state of the at least one printing client in relation to the wireless LAN printer (**paragraph [0021], lines 4-6; note that the priority table reflects the relationship of the printer and the host**).

Ohta and Torikai are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to have an extraction unit to extract information from a Media Access Control frame of the at least one printing client that is associated with a Basic Service Set, which includes the wireless LAN printer; a list forming unit to form the at least one printing client by using a Media Access Control address of the Media Access Control frame as an index, the list reflecting a state of the at least one printing client in relation to the wireless LAN printer. The suggestion/motivation for doing so would have been in order acquire a better communication between multiple devices; also, to minimize the need for buffer for print data (lines 1-3; abstract). Therefore, it would have been obvious to combine Ohta with Torikai to obtain the invention as specified in claim 9.

Ohta and Torikai disclosed most of the subject matter as described as above except for specifically teaching the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer; by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer.

However, Mazzagatte et al. the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer (**column 11, lines 40-45; note that an authenticated print job contains unique identification information of the intended recipient and is held off from being printed until the recipient has**

been authenticated at the printer. Also, note that as stated on column 11, lines 58-62; the printer and the computer are connected via wireless network); by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer (**column 12, lines 9-17; note that the authenticated print job are permitted to be printed**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer; by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer. The suggestion/motivation for doing so would have been in order to remotely obtaining exclusive control of a device by remotely establishing communication with the device over a network, requesting to obtain remote exclusive control of the device's capabilities, and determining whether remote exclusive control of the device's capabilities can be obtained based on whether or not another user already has exclusive control of the device's capabilities (lines 1-7; abstract). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 9.

Ohta, Torikai and Mazzagatte et al. disclosed most of the subject matter as described as above except for specifically teaching wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes.

However, Hayashi disclosed wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes (**column 10, lines 27-32; note that the response signal is laid out in structure as shown in FIG. 5 and is transmitted wirelessly to the wireless client device 2 over the frequency channel on which the beacon signal is being output**).

Ohta, Torikai, Mazzagatte et al. and Hayashi are combinable because they are from the same field of endeavor i.e. wireless network devices. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes. The suggestion/motivation for doing so would have been in order to remotely obtaining exclusive control of a device by remotely establishing communication with the device over a network (column 1, lines 51-58). Therefore, it would have been obvious to combine Ohta and Torikai, Mazzagatte et al. with Hayashi to obtain the invention as specified in claim 9.

(9) regarding claim 10:

Ohta further discloses, the wireless Local Area Network printer according to claim 9, wherein the wireless Local Area Network printer and the at least one printing client operate within the IEEE 802.11b standard (**11, 12A-12C, 15, figure**

1; column 4, lines 45-53; note that the printers and the print client i.e. considered as the PDA is connected wirelessly).

(10) regarding claim 12:

Ohta and Torikai disclose all of the subject matter as described as above except for specifically teaching wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication.

However, Mazzagatte et al. disclose wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication (**column 16, lines 40-45; note that the in order to have print jobs the client gets authenticated via a smart card reader. also in column 11, lines 60-62; note that the printer and the client are connected via wireless connection**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim12.

(11) regarding claim 13:

Ohta and Torikai disclose all of the subject mater as described as above except for specifically teaching wherein the list of the at least one printing client includes fields specifying whether each printing client is allowed to associate with the wireless Local Area Network printer.

However, Mazzagatte et al. teach wherein the list of the at least one printing client includes fields specifying whether each printing client is allowed to associate with the wireless Local Area Network printer (**column 11, lines 52-55; note that the printing clients i.e. data sending nodes and computers are connected with the associate printer and print server**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specify whether each printing client is allowed to associate with the wireless Local Area Network printer. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 13.

(12) regarding claim 14:

Ohta further the method according to claim 1, wherein the list of the at least one printing client includes fields assigning a printing priority to the at least one printing client (**column 6, lines 25-27; note that the queue allocates resource for each transfer according to the priority**)

(13) regarding claim 15:

Ohta further discloses, the wireless Local Area Network printer according to claim 9, wherein the list of the at least one printing client includes fields denoting whether specific functions of the wireless Local Area Network printer are usable by the at least one printing client (**column 4, lines 55-59; note that the printers and the print client i.e. PDA are connected via wireless network**).

(14) regarding claim 17:

Ohta further discloses, the wireless Local Area Network printer according to claim 9, wherein the extraction unit, the list forming unit, and the management unit are implemented in network cards of the wireless Local Area Network printer (**58, figure 11, column 8, lines 28-33; note that the NIC card is implemented in order to interface the print station with the external devices**).

(15) regarding claim 18:

Ohta further discloses, the wireless Local Area Network printer according to claim 9, wherein the extraction unit, the list forming unit, and the management unit are implemented as hardware or software (**column 8, lines 56-59; note that the wireless communication protocol processing unit is implemented as software or firmware**).

(16) regarding claim 19:

Ohta further discloses, the method of according to claim 2, wherein the list of the at least one printing client is restructured in real time according to a beacon signal (**column 5, lines 29-32; note that the print management server sends a signal to the portable digital device for the requested print job**), and the list is updated when a state of the at least one printing client changes (**column 5, lines 35-45**).

(17) regarding claim 20:

Ohta and Torikai disclose all of the subject matter as described as above except for specifically teaching wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication.

However, Mazzagatte et al. disclose wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication (**column 16, lines 40-45; note that the in order to have print jobs the client gets authenticated via a smart**

card reader. also in column 11, lines 60-62; note that the printer and the client are connected via wireless connection).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 20.

(18) regarding claim 21:

Ohta and Torikai disclose all of the subject mater as described as above except for specifically teaching wherein the list of the at least one printing client includes fields specifying whether the at least one printing client is allowed to associate with the wireless LAN Local Area Network printer.

However, Mazzagatte et al. teach wherein the list of the at least one printing client includes fields specifying whether each printing client is allowed to associate with the wireless Local Area Network printer (**column 11, lines 52-55; note that the printing clients i.e. data sending nodes and computers are connected with the associate printer and print server**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specify whether each printing client is allowed to associate with the wireless Local Area Network printer. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 21.

(19) regarding claim 22:

Ohta further the method according to claim 1, wherein the list of the at least one printing client includes fields assigning a printing priority to the at least one printing client (**column 6, lines 25-27; note that the queue allocates resource for each transfer according to the priority**).

(20) regarding claim 23:

Ohta further discloses, the method of according to claim 2, wherein the list of the at least one printing client includes fields denoting whether specific functions of the wireless Local Area Network printer are usable by the at least one printing client (**column 4, lines 55-59; note that the printers and the print client i.e. PDA are connected via wireless network**).

(21) regarding claim 25:

Ohta further discloses, the wireless LAN Local Area Network printer of according to claim 10, wherein the list of the at least one printing client is restructured in real time according to a beacon signal (**column 5, lines 29-32; note that the print management server sends a signal to the portable digital device for the requested print job**), and the list is updated when a state of the at least one printing client changes (**column 5, lines 35-45**).

(22) regarding claim 26:

Ohta and Torikai disclose all of the subject matter as described as above except for specifically teaching wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication.

However, Mazzagatte et al. disclose wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication (**column 16, lines 40-45; note that the in order to have print jobs the client gets authenticated via a smart card reader. also in column 11, lines 60-62; note that the printer and the client are connected via wireless connection**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to wherein the list of the at least one printing client denotes state of the at least one printing client in relation to the wireless Local Area Network printer and includes fields for at least one of synchronization, association, and authentication. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 26.

(23) regarding claim 27:

Ohta and Torikai disclose all of the subject mater as described as above except for specifically teaching wherein the list of the at least one printing client includes fields specifying whether the at least one printing client is allowed to associate with the wireless LAN Local Area Network printer.

However, Mazzagatte et al. teach wherein the list of the at least one printing client includes fields specifying whether each printing client is allowed to associate with the wireless Local Area Network printer (**column 11, lines 52-55; note that the printing clients i.e. data sending nodes and computers are connected with the associate printer and print server**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specify whether each printing client is allowed to associate with the wireless Local Area Network printer. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 27.

(24) regarding claim 28:

Ohta further the method according to claim 1, wherein the list of the at least one printing client includes fields assigning a printing priority to the at least one printing client (**column 6, lines 25-27; note that the queue allocates resource for each transfer according to the priority**)

(25) regarding claim 29:

Ohta further discloses, the wireless LAN Local Area Network printer of according to claim 10, wherein the list of the at least one printing client includes fields denoting whether specific functions of the wireless Local Area Network printer are usable by the at least one printing client (**column 4, lines 55-59; note that the printers and the print client i.e. PDA are connected via wireless network**).

(26) regarding claim 31:

Ohta further discloses, the wireless Local Area Network printer according to claim 10, wherein the extraction unit, the list forming unit, and the management unit are implemented in network cards of the wireless Local Area Network printer (**58, figure 11, column 8, lines 28-33; note that the NIC card is**

implemented in order to interface the print station with the external devices).

(27) regarding claim 32:

Ohta further discloses, the wireless Local Area Network printer according to claim 10, wherein the extraction unit, the list forming unit, and the management unit are implemented as hardware or software (**column 8, lines 56-59; note that the wireless communication protocol processing unit is implemented as software or firmware**).

(28) regarding claim 33:

Ohta further discloses, printing client management method of a wireless Local Area Network printer (**12A-12C, 13 figure 1; column 4, lines 41-45; note that remote printing system which is connection via network is disclosed**), comprising:

wherein the at least one printing client is a personal computer, a personal digital assistant, or a cellular phone, that includes a wireless Local Area Network functionality (**column 4, lines 49-51; note that the client includes a cellular phone, a note-size computer and a PDA**).

Ohta discloses all of the subject matter as described as above except for specifically teaching forming a list that includes at least one printing client using a Media Access Control address of the Media Access Control frame related to the at least one printing client as an index, the list reflecting a state of the at least one printing client in relation to the wireless LAN printer.

However, Torikai discloses forming a list that includes at least one printing client using a Media Access Control address of the Media Access Control frame related to the at least one printing client as an index (**abstract, lines 8-15; note that table 11 is formed based on the printer which is equipped with a request-to-send part which sends a request of the request-to-send packed back to the MAC address at the head of the queue table 11**), the list reflecting a state of the at least one printing client in relation to the wireless LAN printer (**paragraph [0021], lines 4-6; note that the priority table reflects the relationship of the printer and the host**).

Ohta and Torikai are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to form a list that includes at least one printing client using a Media Access Control address of the Media Access Control frame related to the at least one printing client as an index, the list reflecting a state of the at least one printing client in relation to the wireless LAN printer. The suggestion/motivation for doing so would have been in order acquire a better communication between multiple devices; also, to minimize the need for buffer for print data (lines 1-3; abstract). Therefore, it would have been obvious to combine Ohta with Torikai to obtain the invention as specified in claim 33.

Ohta and Torikai discloses all of the subject matter as described as above except for specifically teaching to associate the at least one printing client authenticated to receive services of the wireless Local Area Network printer to the wireless Local Area Network printer using the list of the at least one printing client.

However, Mazzagatte et al. disclose to associate the at least one printing client authenticated to receive services of the wireless Local Area Network printer to the wireless Local Area Network printer using the list of the at least one printing client (**column 16, lines 40-45; note that the in order to have print jobs the client gets authenticated via a smart card reader. also in column 11, lines 60-62; note that the printer and the client are connected via wireless connection**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to associate the at least one printing client authenticated to receive services of the wireless Local Area Network printer to the wireless Local Area Network printer using the list of the at least one printing client. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 33.

Ohta, Torikai and Mazzagatte et al. disclosed most of the subject matter as described as above except for specifically teaching wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes.

However, Hayashi disclosed wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes (**column 10, lines 27-32; note that the response signal is laid out in structure as shown in FIG. 5 and is transmitted wirelessly to the wireless client device 2 over the frequency channel on which the beacon signal is being output**).

Ohta, Torikai, Mazzagatte et al. and Hayashi are combinable because they are from the same field of endeavor i.e. wireless network devices. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes. The suggestion/motivation for doing so would have been in order to remotely obtaining exclusive control of a device by remotely establishing communication with the device over a network (column 1, lines 51-58). Therefore, it would have been obvious to combine Ohta and Torikai, Mazzagatte et al. with Hayashi to obtain the invention as specified in claim 33.

(29) regarding claim 34:

Ohta and Torikai discloses all of the subject matter as described as above except for specifically teaching wherein allowance of association of the at least one printing client in relation to the wireless Local Area Network printer is determined based on fields denoting association permission.

However, Mazzagatte et al. teach wherein allowance of association of the at least one printing client in relation to the wireless Local Area Network printer is determined based on fields denoting association permission (**column 11, lines 52-55; note that the printing clients i.e. data sending nodes and computers are connected with the associate printer and print server**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art wherein allowance of association of the at least one printing client in relation to the wireless Local Area Network printer is determined based on fields denoting association permission.. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 34.

(30) regarding claim 35:

Ohta and Torikai disclose all of the subject matter as described as above except for specifically teaching an association forming unit to associate each authenticated printing client with the wireless Local Area Network printer using the list of the at least one printing client.

However, Mazzagatte et al. disclose an association forming unit to associate each authenticated printing client with the wireless Local Area Network printer using the list of the at least one printing client (**column 16, lines 40-45;**

note that the in order to have print jobs the client gets authenticated via a smart card reader. also in column 11, lines 60-62; note that the printer and the client are connected via wireless connection).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have an association forming unit to associate each authenticated printing client with the wireless Local Area Network printer using the list of the at least one printing client. The suggestion/motivation for doing so would have been in order to obtain exclusive control of a printing device (abstract, lines 1-2). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 35.

(31) regarding claim 36:

Ohta discloses all of the subject matter as described as above except for specifically teaching a media access control software is used to extract information from the Media Access Control frame of the at least one printing client; and an application programming interface is used to form a list of the at least one printing client using Media Access Control address associated with the Media Access Control frame as an index.

However, Torikai discloses a media access control software is used to extract information from the Media Access Control frame of the at least one printing client (**abstract, lines 4-8; note that the network printer is equipped**

with an order control means which extracts a transmission destination MAC address from a print request packet); and an application programming interface is used to form a list of the at least one printing client using Media Access Control address associated with the Media Access Control frame as an index (**abstract, lines 8-15; note that table 11 is formed based on the printer which is equipped with a request-to-send part which sends a request of the request-to-send packed back to the MAC address at the head of the queue table 11**).

Ohta and Torikai are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to have a media access control software is used to extract information from the Media Access Control frame of the at least one printing client; and an application programming interface is used to form a list of the at least one printing client using Media Access Control address associated with the Media Access Control frame as an index. The suggestion/motivation for doing so would have been in order acquire a better communication between multiple devices; also, to minimize the need for buffer for print data (lines 1-3; abstract). Therefore, it would have been obvious to combine Ohta with Torikai to obtain the invention as specified in claim 36.

(32) regarding claim 37:

Ohta and Torikai disclose all of the subject matter as described as above except for specifically teaching wherein the printer maintains a wired or wireless connection to a printer management server.

However, Mazzagatte et al. disclose wherein the printer maintains a wired or wireless connection to a printer management server (**column 11, lines 60-62; note that the printer and the client are connected via wireless connection**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have either a wired or wireless connection between the printer and the print server. The suggestion/motivation for doing so would have been in order to provide two way communication between the printer and the print server. Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. in order to obtain the invention as specified in claim 37.

(33) regarding claim 38:

Ohta and Torikai disclose all of the subject matter as described as above except for specifically teaching wherein the printer management server includes a wireless Local Area Network printer remote management program.

However, Mazzagatte et al. disclose wherein the printer management server includes a wireless Local Area Network printer remote management program (**column 12, lines 27-31; note that the print driver is disclosed.**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to establish communication between the print serve and the printer via a remote program. The suggestion/motivation for doing so would have been to establish a reliable communication (column 12, lines 37-43). Therefore, it would have been obvious to combine Ohta, Torikai with Mazzagatte et al. in order to obtain the invention as specified in claim 38.

(34) regarding claim 39:

Ohta further discloses a wireless Local Area Network printer (**12A-12C, 13 figure 1; column 4, lines 41-45; note that remote printing system which is connection via network is disclosed**) that functions as a network server and manages at least one printing client in a Local Area Network (**13, figure 1; column 4, lines 62-66; note that the print server manages the print requests in a print queue with a specified printing stations**), comprising:

a management unit to manage printing operations of the at least one printing client according to the list (**column 4, line 66-column 5, line 3; note that the print server manages the operation of the printing stations**);

wherein the at least one printing client is a personal computer, a personal digital assistant, or a cellular phone, that includes a wireless Local Area Network functionality (**column 4, lines 49-51; note that the client includes a cellular phone, a note-size computer and a PDA**).

Ohta discloses all of the subject matter as described as above except for specifically teaching extracting information from a Media Access Control frame of the at least one printing client; forming a list of the at least one printing client by using Media Access Control address of the Media Access Control frame as an index, the list reflecting a state of the at least one printing client in relation to the wireless LAN printer.

However, Torikai discloses extracting information from a Media Access Control frame of the at least one printing client (**abstract, lines 4-8; note that the network printer is equipped with an order control means which extracts a transmission destination MAC address from a print request packet**); forming a list of the at least one printing client by using Media Access Control address of the Media Access Control frame as an index (**abstract, lines 8-15; note that table 11 is formed based on the printer which is equipped with a request-to-send part which sends a request of the request-to-send packed back to the MAC address at the head of the queue table 11**), the list reflecting a state of the at least one printing client in relation to the wireless LAN printer (**paragraph [0021], lines 4-6; note that the priority table reflects the relationship of the printer and the host**).

Ohta and Torikai are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to extract information from a Media Access Control frame of the at least one printing client; forming a list of the at least one printing client by using Media Access Control address of the Media Access Control frame as an index, the list reflecting a state of the at least one printing client in relation to the wireless LAN printer. The suggestion/motivation for doing so would have been in order acquire a better communication between multiple devices; also, to minimize the need for buffer for print data (lines 1-3; abstract). Therefore, it would have been obvious to combine Ohta with Torikai to obtain the invention as specified in claim 39.

Ohta and Torikai disclosed most of the subject matter as described as above except for specifically teaching the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer; by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer.

However, Mazzagatte et al. the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer (**column 11, lines 40-45; note that an authenticated print job contains unique identification information of the intended recipient and is held off from being printed until the recipient has been authenticated at the printer. Also, note that as stated on column 11, lines 58-62; the printer and the computer are connected via wireless network**); by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer (**column 12, lines 9-17; note that the authenticated print job are permitted to be printed**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to the extracted information being information specifying whether the at least one printing client is authenticated to receive services of the wireless LAN printer; by permitting only printing clients authenticated to receive services of the wireless LAN printer to associate with the wireless LAN printer. The suggestion/motivation for doing so would have been in order to remotely obtaining exclusive control of a device by remotely establishing communication with the device over a network, requesting to obtain remote exclusive control of the device's capabilities, and determining whether remote exclusive control of the device's capabilities can be obtained based on whether or not another user already has exclusive control of the device's capabilities (lines 1-7; abstract). Therefore, it would have been obvious to combine Ohta and Torikai with Mazzagatte et al. to obtain the invention as specified in claim 39.

Ohta, Torikai and Mazzagatte et al. disclosed most of the subject matter as described as above except for specifically teaching wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes.

However, Hayashi disclosed wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes (**column 10, lines 27-32; note that the response signal is laid out in structure as shown**

in FIG. 5 and is transmitted wirelessly to the wireless client device 2 over the frequency channel on which the beacon signal is being output).

Ohta, Torikai, Mazzagatte et al. and Hayashi are combinable because they are from the same field of endeavor i.e. wireless network devices. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art wherein the list of the at least one printing client is restructured in real time according to a beacon signal, and the list is updated when a state of the at least one printing client changes. The suggestion/motivation for doing so would have been in order to remotely obtaining exclusive control of a device by remotely establishing communication with the device over a network (column 1, lines 51-58). Therefore, it would have been obvious to combine Ohta and Torikai, Mazzagatte et al. with Hayashi to obtain the invention as specified in claim 39.

(35) regarding claim 40:

Ohta further discloses, the method according to claim 38, wherein the wireless Local Area Network printer becomes a Basic Service Set master or a link group server (**12A-12C, 16, 11, figure 1;column 4, lines 51-59; note that the wireless LAN printer having an access point with respect to the wireless clients**).

(36) regarding claim 41:

Ohta and Torikai discloses all of the subject matter as described as above except for specifically teaching wherein each field denoting whether specific functions of the wireless Local Area Network printer is enabled or disabled according to functions desired by a user.

However, Mazzagatte et al. disclose wherein each field denoting whether specific functions of the wireless Local Area Network printer is enabled or disabled according to functions desired by a user (**column 7, lines 20-34; note the network interface is utilize to interface printer to interface**).

Ohta, Torikai and Mazzagatte et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art each field denoting whether specific functions of the wireless Local Area Network printer is enabled or disabled according to functions desired by a user. The suggestion/motivation for doing so would have been in order for the user to gain control over the printer (column 7, 34-35). Therefore, it would have been obvious to combine Ohta and Torikai with Treptow et al. in order to obtain the invention as specified in claim 41.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mahany et al. (US Publication Number 2002/0123345 A1) disclosed low-power wireless beaconing network supporting proximal formation, separation and reformation.

6. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Hilina Kassa whose telephone number is (571) 270-1676.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore could be reached at (571) 272- 7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see http://pari-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hilina S Kassa/
Examiner, Art Unit 2625
September 13, 2010

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625